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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet

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of

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Application Number

Filing Date

First Named Inventor

Gene D. Burdette

Art Unit

Examiner Name

Attorney Docket Number

20228

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	AB	U-15 Grenade-Large, P&D Paintball Ordnance. Paint Ball Discounters, 3069 Silver Drive, Columbus, OH	
	AE	Load Paintball Launcher, PaintBall Discounters, 3069 Silver Drive, Columbus, OH	
	AF	Trap-II Booby Trap, RedWolf AirSoft Specialist, Ltd., 446-448 Shanghai Street, Kowloon, Hong Kong	
	AI	Master Mine, Major Paintball, Box 2155, Oak Valley Road, Toccoa, Georgia 30577	

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

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## RELATED APPLICATION DATA

This application is a non-provisional application for Letters Patent claiming the priority date of provisional application Serial Number 60/404,670 filed on 21 August 2002, the specification contained therein incorporated into this application by this reference thereto.

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention

This invention relates to an anti-personnel device for use in war gaming exercise which comprises at least one launching mechanism for launching at least one projectile outwardly from the anti-personnel device.

### 2. Prior Art Statement

It is known to provide a frangible chamber containing a slurry of a dispersing agent and a plurality of particles serving as a marking agent wherein the frangible chamber is removed from a container, tossed manually in an arcuate path to strike a target or land in the vicinity thereof. For instance, see the U.S. Patent 4,684,137 issued on August 4, 1987 to Armer, Jr. et al. The slurry contained in the frangible chamber of this patent generally only splatters upon hitting an object thus limiting the marking range to an oblong having a major axis length in the direction of the throw of fewer than 10 feet. A gel capsule substantially equivalent to the Armer, Jr. et al., patent without the container is available from P&D Paintball Ordnance or Paintball Discounters.

It is also known to exude a slurry material through holes disposed through an egg-shaped device resembling a grenade wherein the marking slurry is initially contained in a container having a membrane as a wall adjacent the holes in the egg-shaped device. The membrane is ruptured by the explosive force forcing the membrane wall of the container outwardly toward the wall of the egg-shaped device. A flat version of the same device may be used as a land mine. For instance, see the U. S. Patent 3,492,945 issued on February 3, 1970 to Ernest Filippi. Clean up and recharging of this device is time consuming and messy thus limiting the use thereof to once per war game event.

It is further known to provide a paintball "Claymore" land mine comprising tubular device having an explosive charge at one end wherein paintballs are shot from the open end of the

tubular device in a dispersed pattern at a high velocity. For instance, see U.S. Patent 6,289,819 B1 issued on September 18, 2001 to Daniel Dolderer. The dispersion of paintballs is generally limited to a narrow cone as the tubular device functions like a barrel of a gun thus directing the paintballs into the narrow cone. Paintballs are also subject to rupture within the device as the explosive charge is often too powerful for launching paintballs. An array of tubular chambers discharging paintballs with a gas discharge is available as "The LOAD Paintball Launcher" at the website of Paintball Shooter for \$995.00. This device is too expensive for individuals in paintball games and requires cleaning prior to re-arming. Still another multiple tube launcher is available as the TRAP-II Booby Trap from the website of Redwolf Airsoft which uses a gas discharge to expel airsoft BB's. The TRAP-II has a directional limited cone pattern.

Additionally, it is known to provide a grenade like device having an inner pressurized chamber and an outer peripheral recess whereby when the grenade bottom strikes a surface after having been armed, releases a slurry from the inner pressurized chamber into the outer peripheral recess spraying outwardly from the outer peripheral recess through spray holes communicating with the outer peripheral recess. For instance, see the U. S. Patent 3,878,639 issued on April 22, 1975 to Sheelar, et al. A land mine issued to Armer, Jr. et al., in U. S. Patent 4,690,061 operates on a similar principle, however, the slurry chamber and the pressurized container are initially separated. In the Armer, Jr., et al., device, the trip wire releases a puncturing pin which punctures the membrane on a pressurized chamber releasing the pressurized contents into the slurry chamber thereby forcing the slurry up a tube and out spray holes arranged circumferentially around a spray head. A mine device operating on the principle described in the Armer, Jr, et al., device is available as the MASTER MINE from at the website of Major Paintball. Like the Filippi device above, these devices are also messy and require considerable time for cleaning.

Devices are known that expel paintballs from tubes associated with a pressurized container. In U. S. Patent 4,944,521, issued on July 31, 1990 to Donald Greeno, paintballs are adhesively held in arcuate chambers arranged about the peripheral surface of a grenade like device at the ends of the tubes wherein the tubes also contain a resilient plug force fit therein. A puncturing pin releases pressurized gas from a gas container into the tubes upon launching the

AJ  
AK  
AL

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grenade and when the pressure builds up in the tubes sufficient to overcome the resistance of the resilient plug against the walls of the tubes, the plugs and paintballs are expelled. One drawback of this device is that the paintballs are not expelled from every chamber due to the frictional fit of the plugs and thus the grenade may not mark its intended target. A similar device for "airsoft" or miniature paintballs was patented by Woodall, et al., in U. S. Patent 5,996,503. A separate time delay mechanism allows for launching the grenade prior to discharge of the projectiles. Rearming the Woodall, et al., device is time consuming and costly. A war gaming land mine operating on the same principle is described and claimed in U. S. Patent 5,877,448 issued on March 2, 1999 to Denton, et al. No retainer plugs are required to hold the paintballs as the tubes are all oriented slightly upwardly. A trip wire is used to trigger the puncturing pin. Rearming the device is costly and time consuming.

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AM

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It is known to provide a toy mine containing a latching mechanism, the toy mine comprising a frusto-conical hollow cover, a base and a cylindrical hollow body affixed to the base wherein the cylindrical body contains a locking/releasing mechanism. The frusto-conical cover is biased outwardly from the base by a compression coil spring. For instance, see the U. S. Patent 3,564,756 issued on February 23, 1971 to Gunpei Yokoi. The toy mine has no means to contain or to eject any particles therefrom.

AN

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A device for masking the scent of humans is described in U. S. Patent 5,033,446 issued on July 23, 1991 to Richard Bradt. The device comprises a missile having a perforated cylindrical head and a solid cylindrical shaft, the perforated head adapted to retain a scent masking material therein for diffusion into the atmosphere around a hunter, watcher or animal photographer. The missile is launched from a cylindrical barrel of a launcher having a compressible coil spring contained therein. The device has no means for expelling paintballs or airsoft particles used in war gaming exercises.

AO

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A paintball mine is shown in U. S. Design Patent D 366,283 having an openable and closeable cover. The mine appears to have a launcher disposed within the box below the cover but does not show, describe or claim launching paintballs or airsoft particles. The patent was issued on January 16, 1996 to Brett Fernandes.



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AP  
A paint dispersing training grenade is described in U. S. Patent 5,018,449 issue on May 28, 1991 to Edward Eidson, II. The grenade has a spring biased piston with rack and pinion delayed gates disposed below the piston. When released in a throwing motion, the hand-held lever is released thereby allowing the piston to move against the gates. When the gates have parted to allow the piston to pass thereby, the piston crushes a gel capsule holding the paint to be dispersed. The paint is driven through passages in the body of the grenade thereby squirting out of the ends of the passages. This grenade is as messy to clean and re-arm as the grenades of Filippi and Scheelar, et al., or the mine of Armer, Jr., et al.

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AQ  
Finally, it is known to provide a paintball grenade having means for crushing multiple paintballs that then exude through passages in a band about the central portion of the grenade. For instance, see the U.S. Patent 5,590,886 issued on January 7, 1997 to Craig Lush. It is apparent that this grenade is also messy to clean and difficult to re-arm.

#### SUMMARY OF THE INVENTION

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There is a need for a simple war gaming mine and/or grenade that is easy to load, does not require cleaning after every use and has a modifiable dispersion pattern. Therefore, it is an object of this invention to provide an anti-personnel device for use in war gaming exercises which comprises at least one launching mechanism for launching at least one projectile outwardly from the anti-personnel device wherein the launching mechanism has at least one member biased away from another member in opposing directions with a material affixed to the ends of the members that forms a loop depending from the ends of the members that captures projectiles therein when the members are in a closed, armed position. At least one of the members may have a latching system associated therewith wherein the latching system is appended thereto or lying thereover for holding the members in the closed, armed position.

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A feature of this invention is to provide a biasing system for moving at least one member of a launching mechanism of an anti-personel device using at least one of biasing devices selected from the group comprising tension springs, compression springs, leaf springs, gas-operated pistons, electric solenoids, explosive devices or air charged bladders or a combination thereof. Also, the biasing system may retain the launching mechanism in the closed, armed position.

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Attorney Docket Number	20228

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AA	US- 4,684,137	08/04/1987	Armer, et al.	Claim 1, Fig. 1
	AC	US- 3,492,945	02/03/1970	Filippi	Figures, Claims
	AD	US- 6,289,819 B1	09/18/2001	Dolderer	Figures, Claims
	AG	US- 3,878,639	04/22/1975	Scheelar, et al.	Figures, Claims 1-3
	AH	US- 4,690,061	09/01/1987	Armer, Jr., et al.	Figures, Claims
	AJ	US- 4,944,521	07/31/1990	Greeno	Figures, Claims
	AK	US- 5,996,503	12/07/1999	Woodall, et al.	Figures, Claims
	AL	US- 5,877,448	03/02/1999	Denton, et al.	Figures, Claims
	AM	US- 3,564,756	02/23/1971	Gunpei	Figures, Claims
	AN	US- 5,033,446	07/23/1991	Bradt	Figures
	AO	US- D366,283	01/16/1996	Fernandes	Figures
	AP	US- 5,018,449	05/28/1991	Eidson, II	Figures
	AQ	US- 5,590,886	01/07/1997	Lush	Figures, Claim 1
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**FOREIGN PATENT DOCUMENTS**

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		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

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